

which has a strong and simply constructed latching arm can be obtained. Furthermore, in a case where a covering enclosure is formed on the outside of the shielding shell with the tip end portion of the shielding shell exposed, and the enclosure has a finger-catch part on the rearward-facing surface that makes it possible to push this rearward-facing surface, a male connector with good operating characteristics can be obtained.

10 Brief Description of the Drawings

Figure 1 is a plan view of the male connector of the present invention.

Figure 2 is a side view of the male connector shown in Figure 1.

15 Figure 3 is a front view of the male connector shown in Figure 1.

Figure 4 shows the latching arm used in the male connector. Figure 4 (A) is a plan view, Figure 4 (B) is a side view, and Figure 4 (C) is a front view.

20 Figure 5 is a plan view of the female connector.

Figure 6 is a front view of the female connector shown in Figure 5.

Figure 7 is a side view of the female connector shown in Figure 6.

25 Figure 8 is a bottom view of the female connector.

Figure 9 is a plan view of the housing of the female connector.

Figure 10 is a front view of the housing of the female connector.

30 Detailed Description of the Embodiment Disclosed

Various configurations of the electrical connector assembly (hereafter referred to simply as an "assembly") of the present invention will be described in detail with 51451 US

reference to the attached figures. Figure 1 is a plan view of the male connector of the present invention, Figure 2 is a side view of the male connector shown in Figure 1, and Figure 3 is a front view of the male connector shown in Figure 1. Figure 4 shows the latching arm used in this male connector. Figure 4 (A) is a plan view, Figure 4 (B) is a side view, and Figure 4 (C) is a front view.

The following description will refer to Figures 1 through 4. As is shown in Figure 1, the male connector 1 has a substantially rectangular insulating housing (hereafter referred to simply as a "housing") 2 which has contacts 6 (a portion of the arrangement of these contacts is shown in Figure 3), a metal shielding shell (hereafter referred to simply as a "shell") 4 which is mounted on the outside of the housing 2 so that it covers the housing 2, and an enclosure 8 which covers approximately the rear half of this shielding shell 4. For this embodiment, the side of the male connector 1 on which the engaging part 11 is located will be referred to as the "front," and the opposite side, i.e. the side on which the cable 12 is located, will be referred to as the "rear."

The housing 2 has a rectangular flange 10 on the front part of the housing 2. A main body 16 is integrally formed rearward from this flange 10. The main body 16 has a shoulder 14 around its entire periphery. Projections 28 are caused to protrude from both sides of the housing 2 on the side facing the viewer from the plane of the paper in Figure 1 and on the opposite side, in positions located near both end portions of the outside of the main body. The shoulder 14 is formed so that this shoulder 14 has substantially the same dimensions as the thickness of the shell 4. A plurality of slots 13 which extend forward from the shoulder 14 are respectively formed in the flange 10 on the side facing the viewer from the plane of the paper in Figure 1

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and on the opposite side. The main body 16 is accommodated inside the tip end portion of the shell 4. The flange 10 contacts the tip end 18 of the shell 4 and protrudes from this tip end 18.

As is shown most clearly in Figure 3, a rectangular opening 20 is formed facing rearward in the flange 10 of the housing 2. A pair of ribs 22, which extend in the direction perpendicular to the direction of insertion of the male connector 1, are caused to protrude from the inside surface of this opening 20 so that these ribs 22 face each other at a roughly intermediate point with respect to the width of the housing 2 in the direction of insertion. A slot 24 is formed between these ribs. A board 26 on which numerous contacts 6 are disposed is inserted and held in this slot 24. Accordingly, the tip end portions of the contacts 6 are exposed inside the opening 20, thus forming contact parts that contact the contacts 140 of the mating connector, i.e. the female connector 100 (described later, see Figure 6). The respective contacts 6 are connected to the conductors of individual electrical wires (not shown in the figures) of the cable 12.

The shell 4 is constructed from a set of rectangular shell half-bodies (hereafter referred to simply as "half-bodies") 4a and 4b which are combined with each other. The half-bodies 4a and 4b have similar shapes, and are constructed so that the half-body 4a constituting the upper side in Figure 2 substantially covers the half-body 4b constituting the lower side. Tongue parts 15 (Figure 1) are caused to protrude from the tip end 18 of the shell 4 in positions corresponding to the slots 13 in the flange 10. The tongue parts and slots engage with each other when the shell 4 is assembled with the flange 10. Bent extension parts 32 which extend rearward are formed on the rear ends 30 of the respective half-bodies 4a and 4b (Figure 1). When

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